

REMARKS/ARGUMENTS

In the specification, the paragraph numbered [30] has been amended to correct a typographical error.

Claims 1-9 and 13-15 remain in this application. Claims 1 and 3 have been amended. New claim 16 has been added.

The Examiner states that claim 1 is anticipated under 35 U.S.C. 102(b) by Gossmann (U.S. Patent No. 5,496,140). On page 4 of the last Office Action dated February 1, 2005 the Examiner suggested language to make claim 1 clearer. Applicants have adopted the Examiner's suggestions, amended claim 1 states that when the radial indentations are "viewed in radial cross section the radial indentations are arc-shaped." Such claimed arc-shaped radial indentations are not disclosed by Gossman. Instead, the sectional view of Fig. 2 in Gossman shows areas labeled 17 that are secant shaped.

The Examiner states that claim 1 is anticipated under 35 U.S.C. 102(a) by Smith (EPO No. 1 030 069). Amended claim 1 now includes language originally in Claim 3, "the hardness of the rivet shell in the region of each of the indentations is between 20% to 30% higher than the hardness of the rivet shell at a point mid way between adjacent longitudinally spaced indentations." The claim also recites in part that the "radial indentations [are] crimped into the rivet shell."

Smith does not disclose indentations that are crimped and it does not disclose indentations with the claimed hardness. In contrast, Smith teaches that the grooves formed in the rivet shell are "preferably formed by rolling" (Col. 1, ll. 62-63).

In the last office action the examiner said that claims 2-9 and 13-15 "are rejected under 35 U.S.C. 103 as being unpatentable over Gossmann or Smith as applied to claim 1 above, and further in view of Lacey (U.S. 4,958,971). "Claim 1 calls in part for radial indentations that [are] arc-shaped." The claim also calls for "the hardness of the rivet shell in the region of each of the indentations is between 20% to 30% higher than the hardness of the rivet shell at a point mid way between adjacent longitudinally spaced indentations." Claims 2-9 and 13-15 depend from claim 1 and thereby include these limitations.

Gossman does not suggest arc-shaped radial indentations. As discussed above Gossman shows areas labeled 17 that are secant shaped. Gossman lacks any suggestion that the areas should be modified to be arc-shaped.

In Smith, the disclosed preferred method of forming grooves is rolling. In contrast Claim 1 specifies that the “radial indentations [are] crimped into the rivet shell.” In addition, Claim 1 calls for “the hardness of the rivet shell in the region of each of the indentations is between 20 to 30% higher than the hardness of the next shell at a point midway between adjacent longitudinally spaced indentations.” Smith does not suggest this limitation, moreover one of ordinary skill would not look to Smith to suggest this limitation because the grooves in Smith are rolled as opposed to crimped.

Gossman and Smith do not contain any justification to support their combination. Combining either of these reference or both with Lacey is also not suggested. In the Smith and Lacey references the disclosed preferred method of forming grooves is rolling, Gossman on the other hand disclose that recesses 13 “are preferably made by embossing.” There is no reason given to support the combination of either Gossman or Smith alone or together with Lacey. The fact that the recesses 13 in Gossman are embossed teaches away from combining Gossman with Smith and Lacey which disclose grooves formed by rolling.

Even if Gossman or Smith alone or together were to be combined, the proposed combination would not show all of the novel physical features of Claim 1. The claim calls for “the hardness of the rivet shell in the region of each of the indentations is between 20% to 30% higher than the hardness of the rivet shell at a point mid way between adjacent longitudinally spaced indentations.” At least this element clearly distinguishes Claim 1 from the proposed combinations, because there is no suggestion in any of the references to modify the references to disclose this element. For at least these reasons claims 2-9 and 13-15 are not obvious in view of the cited art.

Claims 1-9 and 13-15 also stand rejected under Lacey in view of Gossmann. For at least the reasons discussed above the claims are not obvious in view of the cited art.

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New Claim 16 presents patentable subject matter. New claim 16 calls in part for “an intermediate surface located radially in between the radial indentations, when viewed in radial cross section the intermediate surface is defined by a first sloping edge, a second sloping edge and a mid-portion between the first and second sloping edges.” The cited art does not disclose or suggest this limitation.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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